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(HANDBOOK OF SOVIET STEELS AND ALLOYS)

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HANDBOOK OF SOVIET STEELS AND ALLOYS

## INTRODUCTION

Start  
SS, ES, NiB, FeB  
This handbook presents a listing of Soviet "EI, EP, EYa, and EZh" steels and alloys and their chemical compositions as compiled from USSR scientific and technical publications. No attempt has been made to categorize or classify these materials under any other nomenclature.

The steels and alloys listed here do not include all the known Soviet steels and alloys, but do represent a good cross section of materials used in various branches of Soviet industry.

A few notes are necessary for the reader to gain full benefit of the contents of this handbook. The symbol "EI" (transliterated from Russian and representing the Russian words "Elektrostal'," a steel plant near Moscow) and "Issledovatel'skiy" (experimental), followed by a serial number, in the past has been called a Factory designation for experimental steels produced by the Elektrostal' Plant, but the present use of this symbol is not so specific, as indicated by the appearance of the "EP, EYa, and EZh" steels and alloys. Many of the "EP" steels were originally developed as high-quality welding wire where the "P" represented the Russian word "provoloka" (wire). Many of these steels are now produced for purposes other than welding wire, but still retain their "EP" designation. The "EYa" steels are chromium-nickel, austenitic stainless steels comparable to the AISI 300 series while the "EZh" steels are chromium, martensitic and ferritic stainless steels comparable to the AISI 400 series.

In addition to the so-called factory designation, Soviet steels and alloys are also identified by a designation which, in most instances, is an abbreviated nominal composition-designation system. For example, steel EI-530 has an alloy designation Kh18N28M3D3. One familiar with these designations would expect this steel to have a nominal composition of roughly 0.1% C, 17-19% Cr, 27-29% Ni, 2.5-3.5% Mo and 2.5-3.5% Cu. A quick check shows that this steel contains 0.12% C, 17.5-19.5% Cr, 27-29% Ni, 2.5-3.5% Mo and 3.5-4.5% Cu. With the exception of copper, the composition of this steel could be estimated quite accurately. And as stated above, this designation is an abbreviated way of indicating a nominal composition and leaves much to be desired as it does not indicate all the elements contained in the steel or alloy (primarily--manganese and silicon). One must be flexible in his approach when working with this particular designation of steels and alloys and not take anything for granted inasmuch as it is far from being standardized.

The specification column which lists the latest known standard serial numbers for these steels and alloys follows the factory designation and alloy designation columns. This system of standards is quite similar to the ASTM standards. Many of these serial numbers are

GOST (All-Union State Standard) numbers which were updated in 1961 (GOST 5632-61), while some of the older ones carry other standards (TU, MPTU, ChMTU, etc.).

→ No special effort has been made to fill in the "nearest equivalent" column. Those listed have been mentioned in Soviet literature or U. S. technical publications concerning Soviet materials, or were determined by random comparison with U. S. steels and alloys (on the basis of chemical composition).

Below is a table of transliterated Russian letters and the chemical element which they symbolize. In passing it must be noted that the Soviets do not use the letter "A" to represent any chemical element. However, it is found in many alloy designations as a suffix letter to indicate a high-quality alloy steel (or has so been used in the past). The letter "R" represents boron in alloy designations; however, as a prefix, e. g., R18K5F2 (EI-940), it indicates that the material is a high-speed tool steel.

Table of transliterated Russian letters and the chemical element which they represent.

<u>Letter</u>	<u>Element</u>
B	Niobium
D	Copper
F	Vanadium
G	Manganese
K	Cobalt
Kh	Chromium
M	Molybdenum
N	Nickel
P	Phosphorus
R	Boron
S	Silicon
T	Titanium
Ts	Zirconium
V	Tungsten
Yu	Aluminum
Z	Sulfur
Zh	Iron (in nonferrous alloys)



SOVIET "Ti" STEELS AND ALLOYS

Chemical Composition, percent (maximum unless given as range)																	
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Al	Cu	B	Co	Others
3	35KhM		AISI 4337	0.32-0.38	0.30-0.60	0.17-0.37	0.05	0.05	0.80-1.20	1.40-1.80	0.25-0.40						
5	25KhN4			0.25-0.35	0.30-0.60	0.17-0.37		0.040	0.80-1.10	4.00-4.50							
6				0.25-0.35	0.25-0.60	0.40	0.030	0.030	0.70-1.10	3.30-4.60							
10	25Kh2MFA 25KhMFA	GOST 4543-61		0.22-0.29	0.40-0.70	0.17-0.37	0.035	0.030	1.50-1.80	0.40	0.20-0.30			0.15-0.30	0.20		
10	35KhMFA	GOST 4543-48	ASTM A-193 -53aT(B-16)	0.30-0.38	0.40-0.70	0.17-0.37	0.035	0.030	1.00-1.30	0.40	0.20-0.40			0.10-0.20			
14	20KhN4FA	GOST 4543-57		0.17-0.24	0.25-0.55	0.17-0.37	0.035	0.030	0.70-1.10	3.75-4.25				0.15-0.30	0.25		
16	18KhNVA 18Kh4NVA	GOST 4543-57		0.14-0.21	0.25-0.55	0.17-0.37	0.035	0.030	1.35-1.65	4.00-4.50		0.80-1.20					
18	25KhNVA 25Kh4NVA	GOST 4543-57		0.21-0.28	0.25-0.55	0.17-0.37	0.035	0.030	1.35-1.65	4.00-4.50		0.80-1.20		0.25			
25	Kh8M36	GOST 4543-51	Elinvar	0.40	0.30-0.60	0.50	0.030	0.030	7.3-8.3	36.5-38.5							
36				0.2	(nominal composition)				12	35-37							

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co
40		МРТУ 2362-49	AISI 316	0.10	2.0	1.0	0.035	0.020	16.0- 19.0	10.0- 14.0	2.0- 3.0							
41				0.16- 0.24	0.25- 0.60				2.4- 3.3	0.50	0.35- 0.55	0.30- 0.50		0.60- 0.85				
42				0.25					0.2	47.0- 49.0							Fe-bal.	
59	Kh30		AISI 446	0.15	1.50	0.50	0.035	0.030	26.0- 30.0	0.60								
60	Kh13Yu4 Kh13Yu5 Kh15Yu4 Kh15Yu5	GOST 9323-59	AISI 405	0.15	0.7	1.0	0.035	0.030	12.0- 15.0	0.60					3.5- 5.5			
66			7XCR?															
69	Kh14Kh14V 4Kh14Kh14V2M	GOST 5632-51	AMS 5700	0.40- 0.50	0.7	0.8	0.030	0.030	13.0- 15.0	13.0- 15.0	0.25- 0.40	2.00 2.75						
69	Kh14Kh14V5	GOST 5632-51	AMS 5700	0.40- 0.50	0.7	2.75- 3.25	0.030	0.030	13.15- 15.15	13.15- 15.15	0.25- 0.40	1.75- 2.25						

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
72	Kh12N7S, Kh13N7S2 3Kh13N7S2	GOST 5632-51	AMS 5705A	0.25- 0.37	0.7	2.0- 3.0	0.035	0.030	11.5- 14.0	6.0- 7.5									
75	35KhGS	GOST 4543-48		0.30- 0.40	0.80- 1.10	1.10- 1.40	0.040	0.040	1.10- 1.40	0.40									
83	12Kh2N4A	GOST 4543-57	AISI E3316	0.15	0.30- 0.60	0.17- 0.37	0.025	0.025	1.25- 1.65	3.30- 3.70					0.20				
84	40KhNMA	GOST 4543-57	AISI 4340	0.37- 0.44	0.50- 0.80	0.15- 0.30	0.025	0.025	0.60- 0.90	1.25- 1.65	0.15- 0.25				0.20				
85	Kh8SM, Kh8S2M	GOST 5632-51		0.35- 0.50	0.3- 0.7	2.0- 3.0			8.0- 9.5	0.6	0.2- 0.4								
88	8SVM	OST 14958- 39		0.8- 0.9	0.20- 0.40	0.80- 1.10	0.030	0.030			0.30- 0.50	1.00- 1.40							

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
94		ChMTU 2913-51	Hadfield Ni-Mn steel	0.70-0.90	13.0-15.0	0.70	0.100	0.030	0.50	2.75-3.75									
95		ChMTU 2913-51	AISI 302B	0.20-0.30	0.40-0.70	0.030	0.020	17.0-19.0	8.0-10.0										
96	08Kh13																		
100	Kh13M4G9 2Kh13M4G9	GOST 5632-61	AISI 202	0.15-0.30	8.0-10.0	0.80	0.060	0.030	12.0-14.0	3.75-5.0									
103		TU 693		0.70-0.85	0.20-0.40	0.30	0.030	0.030	3.20-3.80	0.25									
107	Kh10SN, Kh10S2M, 30Kh10S4A	GOST 5632-51	Croloy 9	0.35-0.45	0.30-0.70	1.90-2.60	0.030	0.025	9.0 10.5	0.50	0.70-0.90								

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
114	18-8-V			0.14-0.21	0.25-0.55	0.15-0.30	0.05	0.05	1.35-1.65	4.00-4.50		0.80-1.20							
116				0.75-0.85		1.50-1.80			9.50-10.80		(nominal composition)			1.00-1.35					
119	(stainless)																		
121				0.32-0.42	0.20-0.40	0.35	0.030	0.030	4.75-5.75			4.0-5.0					0.4-0.5		
122				0.40		1.91			15.26 (actual analysis)	14.9			0.30					Nb 2.12	
123		TU 635		0.15-0.25	0.40-0.80	1.7-2.3	0.030	0.030	14.0-16.0	12.0-14.0		1.8-2.2	0.5-1.5						
126				0.41	0.50	0.65			13.39 (actual analysis)	36.85		2.4							

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
132	Al92K123T Al92K123T	GOST 5032-51	AISI 317T	0.12	2.0	0.8	0.035	0.030	16.0-19.0	11.0-14.0	3.0-4.0									
142	70S2Kh1	GOST 2052-53	AISI 9260	0.65-0.75	0.40-0.60	0.15-0.30	0.035	0.030	0.20-0.40	0.30										
150	Kh3M		ASTM A199-58T (T-2)	0.12-0.18	0.2-0.5	0.5			2.5-3.0	0.6	0.3-0.4			0.2-0.3						
151	Kh6M, 12Kh6M		ASTM A199-58T (T-5)	0.15	0.50	0.50	0.030	0.030	5.0-6.5	0.6	0.45-0.60			0.1-0.25						
160	Kh8V2	GOST 5950-51		0.35-0.45	0.20-0.40	0.35	0.030	0.030	7.00-9.00	0.25		2.00-3.00								
161		MPTU 2594-60	AISI N16	0.55-0.65	0.30-0.60	0.30-0.60	0.030	0.030	6.50-7.50	0.30	0.25-0.35	6.50-7.50		0.30						

EI No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
171	Kh17M13-2N	GOST 5632-51	AISI 316T	0.12	2.0	0.8	0.035	0.030	16.0- 19.0	11.0- 14.0	2.0- 3.0		0.3- 0.6						
172	Kh12FN			1.0- 1.5	0.40	0.35	0.040	0.030	11.0- 13.0	0.9- 1.6				2.0- 2.6					
173				0.90- 1.00	0.40	0.35	0.040	0.035	8.0- 10.0	0.6		2.0- 3.0		1.0- 1.6					
179	30XhGS, 30XhGSA	GOST 4543-57		0.25- 0.35	0.80- 1.10	0.83- 1.20	0.040	0.040	0.80- 1.10	0.25						0.20			
181	Kh25	GOST 5632-51	AISI 446	0.20	0.80	1.00	0.035	0.030	23.0- 27.0	0.60									
183	Kh19NM		AISI 316	0.14	2.0	0.80	0.035	0.030	17.0- 20.0	8.0- 10.0	2.5- 3.0								
184	R4			0.80- 1.00	0.40	0.50	0.040	0.035	7.0 9.0	0.35		3.5 4.8		1.0- 1.5					
185	15NM	GOST 4543-48	AISI 4615	0.10 0.18	0.40- 0.70	0.17- 0.37	0.040	0.040	0.30	1.50- 2.00	0.20- 0.30					0.30			

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
199		TU 193	AISI S-1	0.70- 0.85	0.20- 0.40	0.40- 0.70	0.030	0.030	1.10- 1.40	0.25		2.00- 2.70							
205	15NiCuA 20NiCu	GOST 4233-57		0.17- 0.23	0.80- 1.10	0.90- 1.20	0.035	0.035	0.60- 1.10	0.25						0.20			
203	Kh14G14V			0.35- 0.45	13.0- 15.0	1.40- 1.80	0.030	0.030	13.0- 15.0			2.0- 2.8							
211	Kh20Ni4S, Kh20Ni- 14S2, 1Kh20Ni4S2	GOST 5632-61		0.20	1.50	2.0- 3.0	0.035	0.030	19.0- 22.0	12.0- 15.0									



EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																			
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others				
229	Kh18, 9Kh18	GOST 5632-51	AISI 440C	0.90-1.00	0.70	0.80	0.035	0.030	17.0-19.0	0.60													
240	Kh14Kh14SV2M		AISI 5700				Composition same as for EI-693																
241	Kh14	GOST 5632-51	AISI 420	0.15	0.70	0.60	0.030	0.030	13.0-15.0	0.60													
243				1.0-1.2	0.40	0.35	0.040	0.030	10.0-13.0	0.9-1.6	3.0-4.0			2.0-2.6									
244				1.0-1.15	0.40	0.35	0.040	0.030	10.0-12.0	0.9-1.6				0.3-0.6	2.0-2.6								
256	GL3, GL3L	GOST 2176-57	Hardfield steel	0.9-1.3	11.5-14.5	0.5-1.0	0.12	0.05	0.5	0.5													
257	1Kh14Kh14V2M	GOST 5632-51		0.15	0.7	0.8	0.035	0.030	13.0-15.0	13.0-15.0	0.45-0.60	2.0-2.75											
2572	1Kh14Kh14V2MT	GOST 5632-51		0.15	0.7	0.8	0.035	0.030	13.0-15.0	13.0-15.0	0.45-0.60	2.0-2.75	0.4-0.6										
258			AISI 14	0.95-1.05	0.95-1.15	0.25-0.40	0.03	0.03	0.95-1.15														

Chemical Composition, Percent (maximum unless given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
260				0.90-1.05	0.40	0.35	0.040	0.030	4.0-5.0	0.40	3.2-4.0			2.0-2.6					
261	R4253N	GOST 5632-51	AISI 446	0.35	0.7	2.5-3.5	0.035	0.030	23.0-27.0	0.7-1.3									
262	R-9	GOST 5952-51		0.85-0.95	0.40	0.40	0.030	0.030	3.8-4.4	0.4	0.3	8.50-10.00		2.00-2.60					
263	R4172	GOST 5632-61	AISI 431	0.11-0.17	0.80	0.80	0.030	0.025	16.0-18.0	1.5-2.5									
269	55G5120	CHMTU 2913-51		0.50-0.60	4.0-5.5	0.60	0.050	0.030	0.25	18.5-21.5									
270				0.37-0.47	0.50-0.80	1.60-2.00	0.040	0.040	0.25	0.30									
273		CHMTU 254		0.35-0.42	0.80-1.10	0.17-0.37	0.030	0.030	1.20-1.50	0.50									
274	15K422T	CHMTU 254		0.13-0.18	1.40-1.70	0.17-0.37	0.030	0.030	1.50-1.80	0.50			0.05-0.12						
275	40K424M	CHMTU 254		0.35-0.42	0.70-1.10	0.17-0.37	0.030	0.030	1.50-1.80	0.50	0.25-0.40								

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (Maximum Unless Given as Range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
275				1.00-1.15	0.40	0.40	0.040	0.030	3.80-4.40	0.35	2.30-2.90	2.20-2.90		2.20-2.80					
277				1.10-1.25	0.40	0.35	0.040	0.030	3.80-4.60	0.40	2.30-2.90			2.80-3.30					
278	N35RuV			0.70-0.80	2.0-3.0	0.60	0.04	0.030	7.0-9.0	33.0-35.0		3.0-4.0							
283	Ru25M20S2	GOST 5632-61	AMS 5652A AISI 310B	0.20	1.5	2.0-3.0	0.035	0.020	23.0-27.0	18.0-21.0									
284				0.90-1.10	0.40	0.35	0.040	0.030	4.00-5.00	0.40	3.70-4.50	3.00-3.70		2.00-2.60					
288	35RhGS	GOST 4543-48							(Same as EI-75)										
289	65SV2A, 65SV2A	GOST 2052-53		0.60-0.70	0.70-1.00	1.50-2.00	0.035	0.030	0.030	0.40		0.80-1.20							
290				0.90-1.05	0.40	0.40	0.040	0.035	3.60-4.30	0.35	2.60-3.30	2.60-3.30		1.50-2.00					
292	OM25Ru5	GOST 5632-61		0.06	0.70	1.20	0.035	0.030	23.00-27.00	0.60			0.20			4.50-6.50			

El No.	Alloy Designation	Specification	Fastest Equivalent	Chemical Composition, Percent (maximum unless given as range)										
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Th	V
295				1.50-1.65	0.15-0.40	0.70-0.95	0.03	0.25	0.03	0.5				
296														
297														
298														
299														
300														
301														
302														
303														
304														
305														
306														
307														
308														
309														
310														
311														
312														
313														

Chemical Composition, percent (maximum unless given as range)																			
El. No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
314				0.70-0.88	0.40	0.35	0.040	0.030	7.90-9.10	0.90-1.20				2.40-2.80					
316	Kb25Ni1			0.20	2.0	1.0	0.035	0.030 (Estimated composition)	22-26	10-12									
318	08Ni1/Tu5	GOST 5632-61		0.06	0.70	0.60	0.035	0.030	16.0-19.0	0.60			0.20		4.00-6.00				
319	Kb23Ni13 Kb25Ni1.5	GOST 5632-61		0.20	2.00	1.00	0.035	0.025	22.0-25.0	12.0-15.0									
325	6Ni8	GOST 5950-51		0.60-0.75	0.40	0.60-1.00	0.030	0.030	1.00-1.30	0.25									
328		TU779		0.40-0.50	1.35-1.65	0.80-1.30	0.030	0.030	2.50-3.00	0.25		0.80-1.20		0.20-0.40					
329				0.40-0.50	0.40	0.80-1.20	0.030	0.030	11.0-12.5	0.50		1.30-1.80		0.70-0.90					
330				0.40-0.50	0.20-0.40	1.10-1.70	0.030	0.030	6.0-8.5	0.50	0.60-0.80	1.20-1.60							

IN. No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
300	1825T05			0.25	2.0	1.0	0.035	0.030	24.0-27.0	19.0-22.0									
300		CHTU 217		0.25	1.2-1.8	0.6	0.035	0.030	20-23	bal.						0.06		Fe-1.7 Co-2.3-8.8	
300				1.40-1.50	0.15-0.40	0.70-0.95	0.03	0.025	0.08	0.2		*	* (*0.1-0.6 total)	*					
300				0.42			(Actual analysis)		15	7	0.8			1.7				K-7%	
300	1825T05 1825T05	GOST 5632-61		0.12	0.70	1.20	0.035	0.030	23.00-27.00	0.60			0.50			4.50-6.50			
300	1825T05 1825T05	GOST 5632-61		0.12	0.70	1.20	0.035	0.030	16.00-19.00	0.60			0.50			4.00-6.00			
300				0.7-0.8	0.40	0.40	0.030	0.030	4.0-4.6	0.35	0.3	3.5-10.00		1.3-1.7					

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
349	IN28 (UNS-27)	GOST 5632-61	AISI 446	0.15	0.80	1.00	0.035	0.025	27.0-30.0	0.60									
353	40KhGNVA			0.35-0.45	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90		0.50-0.80							
353	40KhGNVMA			0.35-0.45	0.56-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90	0.15-0.25								
359	IN65	GOST 5950-51		0.95-1.10	0.80-1.20	0.50-1.00	0.030	0.030	1.40-1.80	0.25									
365				1.30-1.45	0.30-0.50	1.0-1.25	0.030	0.025	0.03	0.20		*	*						
369	15KhGNVA	GAETU 320-60		0.12-0.19	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90		0.30-0.60							
369	15KhGNVMA	GAETU 320-60		0.12-0.19	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90	0.15-0.25								
379	30KhGNVA			0.24-0.34	0.65-0.95	0.17-0.37	0.03	0.03	0.75-1.05	0.60-0.90		0.50-0.80							

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
370	3036H12			0.24- 0.34	0.65- 0.95	0.17- 0.37	0.03	0.03	0.75- 1.05	0.60- 0.90	0.15- 0.25								
370	4H16H2M						0.08- 0.15	0.15- 0.25			0.7- 0.9								
380				0.80- 0.95	0.40	0.35	0.040	0.035	7.0- 9.0	0.6- 0.9		2.0- 2.5		2.4- 2.8					
381				0.82- 0.92	0.40	0.35	0.040	0.035	6.0- 7.0	0.40		3.5- 4.5		2.8- 3.2					
382				0.80- 0.90	0.40	0.35	0.040	0.035	4.5- 5.5	0.40		4.0- 5.0		1.8- 2.3					
383				0.27- 0.37	0.20- 0.40	0.35	0.035	0.035	3.0- 4.0	0.50				1.80- 2.40					
386				0.85 0.95	0.40	0.30	0.040	0.030	4.0- 5.0	0.35		4.0- 5.0		1.5- 2.0	0.50- 0.80				
383	Kh15G7H7MF Kh15G7H7MF	GOST 5632-61		0.38- 0.47	6.0- 8.0	0.9- 1.4	0.040	0.020	14.0- 16.0	6.0- 8.0	0.65- 0.95			1.5- 1.9					



EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
				C	Mn	Si	P	S	Cr	Ni	Mo	V	Ti	V	Al	Cu	B	Co	Others																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
394				0.50-0.60	0.20-0.35	0.15-0.30	0.030	0.030	0.40-0.60	0.30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

Chemical Composition, percent (maximum unless given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
404	18-10-0.02N	GOST 5632-61		0.07-0.12	0.70	1.2-2.0	0.030	0.025	11.5-14.0	0.5					1.0-1.8				
405	18-10-1.3-1.3			0.12	0.50	0.50-0.80	0.030	0.025	15.0-17.0	12.5-14.5	2.0-2.5								Nb-0.9-1.3
406	18-10-1.3-1.3			0.12	0.50	0.80-1.00	0.030	0.030	15.0-17.0	12.5-14.5	1.5-2.0								Nb-0.9-1.3
409	(stainless)																		
413		CHMTU 5216-55		0.12	5.00-6.00	1.80-2.60	0.05	0.03	18.00-21.00	6.50-8.00									
414				0.27-0.35	5.00-6.50	1.80-2.60	0.050	0.030	18.00-21.00	6.50-8.00									
415	20Kh3MnV 20Kh3MnV 20Kh3MnV	MPTU 2362-49		0.16-0.24	0.25-0.60	0.40	0.035	0.030	2.4-3.3	0.5	0.35-0.55	0.30-0.50		0.60-0.85					
416	VK-36			0.35-0.45					18-21	18-22		4.5						45	Fe-1-3%
417	Kh23N18	GOST 5632-51	AISI 310	0.2	2.00	1.00	0.035	0.030	22.0-25.0	17.0-20.0									
418	KhN75, Kh15N75			0.12	1.0	0.8			13.0-15.0	275									Fe-2.0%

Chemical Composition, percent (maximum unless given as range)																			
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S (same as El-435)	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
421			Nimonic 75																
422	KhN80T Kh20N80T3	GOST 5632-51	Nimonic 80	0.08	0.5	1.0	0.020	0.015	19.0- 23.0	bal.			2.0- 2.9		0.4- 1.1	0.2			Fe-2.5%
423				0.6- 0.7	8.0- 9.0	0.2- 0.4	0.030	0.030	2.5- 3.2	8.0- 9.0									
424				0.10- 0.16	0.40- 0.90	0.40- 0.90	0.030	0.030	14.0- 16.0	28.0- 32.0			1.5- 2.0						
425																			
426	Kh68Yu	GOST 5632-61		0.15	0.50	1.20- 1.80	0.030	0.025	5.50- 7.70	0.30			0.20		0.70- 1.10				
429		ChMTU 5212-55		0.15- 0.25	6.0- 7.0	0.5	0.035	0.030	11.0- 15.0	10.0- 13.0									
431				0.25- 0.35	0.20- 0.40	0.35	0.030	0.030	2.20- 2.70	0.25		4.0- 5.0		0.50- 0.80					
432	KhN78L3M3T	GOST 5632-61		0.10	1.00- 2.00	0.80	0.035	0.020	16.0- 18.0	12.0- 14.0	3.0- 4.0		0.30- 0.60						
434	KhN10K			0.32- 0.42	0.50- 1.20	0.50- 1.20	0.035	0.030	12.0- 14.0	11.5- 13.5	1.8- 2.4	2.5- 3.5	0.06- 0.15	0.05- 0.10				9.0- 11.0	Nb-1.0- 1.5
435	Kh20N80T, KhN75T KhN78, KhN78T	GOST 5632-61	Nimonic 75	0.12	0.70	0.80	0.030	0.015	19.0- 22.0	bal.			0.15- 0.35						Fe-6%

Chemical Composition, percent (nominal unless given as range)																			
El No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
437			Nimonic 80					(Same as El 422)											
438	Ru177Yu	GOST 5632-61		0.06	0.4	0.6	0.015	0.007	19.0-22.0	bal.			2.3-2.7		0.55-0.95				Fe-1.0% Ce-0.01%
439	Ru177YuR	GOST 5632-61		0.06	0.40	0.60	0.015	0.007	19.0-22.0	bal.			2.3-2.7		0.55-0.95		0.01	Ce 0.01	Fe-4% P-0.01
440	Ru25T	GOST 5632-61	AISI 446	0.15	0.80	1.0	0.035	0.025	24-27	0.6			5x% up to 0.8						
441	Ru470	GOST 5632-61	Nichrome	0.07	0.5	0.8	0.02	0.02	29-31	bal.					0.15				Fe-5.0
444																			
445	Ru16744Yu								20	bal. 4			2.5		0.7				
								(nominal composition)											
445B	Ru18NG7V545TeYuR			0.08	0.5	0.6	0.015	0.010	17-20	bal. 4-5	4-5	4-5	2.5		1-1.5		0.01		Fe-4 Ce-0.01
446				0.08	0.5	0.6	0.015	0.01	17.0-20.0			4.0-5.0	2.2-2.8	4.0-5.0	1.0-1.5		0.01		Fe-4.0% Ce-0.01
447	1Ru18Ni242T Ru18Ni242T Ru17Ni242T	GOST 5632-61		0.10	1-2	0.8	0.035	0.020	16-18	12-14	1.8-		0.3-0.6						

Chemical Composition, Percent (maximum unless given as range)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
492	Ni18Mo14			0.12	1-2	0.80	0.035	0.020	17-19	9-11									Se or Te 0.18-0.35
494	12Ni20B			0.12	0.4-0.7	0.4-0.7	0.035	0.030	2.1-2.6	0.30	0.8-1.0								W-1.3
497	Ni20Zr (similar to RL-57)			0.09	0.54	0.46	0.027	0.012	25.05 (actual analysis)				0.30						
499																			
499				0.12	5.5-7.0	1.0	0.055	0.030	14.0-16.0	12.0-14.0									
460	Ni20		Hastelloy A	0.12	1.5	1.0	0.03	0.03		55-59	18-21								Fe 18-22
461	Ni30		Hastelloy B	0.12	1.0	1.0			1.0	67-69	24-33								Fe-3-7
462				0.05	1.0-2.0	0.20	0.030	0.030	45.0-48.0										
464		TU 908		0.12	1.88	0.53				20.48 (actual analysis)									
465				0.15	0.50	1.25-2.0	0.05	0.030	22.5-25.0	0.50				1.5-2.25					

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
467				0.05	1.0-2.0	0.20	0.030	0.030				48.0-51.0							18-19
469	Kh18N9B 18Kh18N9B	GOST 2246-54		0.06-0.12	1.60-2.0	0.15-0.45	0.035	0.020	17-20	8.8-10.8									Nb-0.75-1.05
473				0.15					10.0-12.0	33.5-37.0									
475		MPU 4157-53	AISI 414	0.20-0.30	0.80-1.20	0.50	0.03-0.15	0.15-0.25	12.0-14.0	1.5-2.0									
478	Kh20N10G6			0.12	5.0-7.0	1.0	0.040	0.030	18.0-22.0	9.0-11.0									
481	4Kh12N2G8MB			0.34-0.40	7.5-9.5	0.9-1.4	0.035	0.030	11.5-13.5	7.0-9.0	1.1-1.4			1.25-1.55					Nb-0.25-0.45
482	Kh15N13G6			0.12	5.0-7.0	1.0	0.040	0.030	14.0-16.0	12.0-14.0									
483	Kh16N14G6			0.12	5.0-7.0		0.030	0.030	14.0-16.0	12.0-14.0									
484	Kh18N11G6	GOST 5632-61		0.15	0.50	1.00-1.50	0.035	0.025	17.0-20.0									0.70-1.20	

FH No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
495				0.10	3.5-5.0	0.40	0.025	0.020	19.0-21.0	9.0-11.0									
495	08Kh13, 08Kh13	GOST 5632-61	AISI 403	0.08	0.60	0.60	0.030	0.025	11-13										
499	Kh28N Kh28TN	ChMTU 3296-55	AISI 446	0.15	0.5	1.0	0.035	0.030	27-30	1.0-1.7									N <sub>2</sub> -0.15-0.22
500	16Kh2GN2VA			0.14-0.19	1.10-1.40	0.17-0.37	0.035	0.035	1.70-2.10	1.70-2.10		0.50-0.80							
500	16Kh2GN2VMA			0.14-0.19	1.10-1.40	0.17-0.37	0.035	0.035	1.70-2.10	1.70-2.10	0.15-0.25								
502				0.10	5.0-7.0	0.85	0.020	0.020	18.0-22.0	9.0-11.0									
503	G9M9, 50M9G9			0.45-0.55	0.8-9.0	0.17-0.37			0.2	8.0-9.0									
503	N9KhG9			0.50-0.65	7.5-9.5	0.7			3.8-4.5	8.0-10.0									
504		TU 752		0.12	1.50	0.90	0.035	0.030	16.0-18.0	11.0-14.0	2.0-2.8							2.5-3.5	

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
505	CAL602B	GMETU 5050-55		0.10	1.0-2.0	0.80	0.035	0.030	18.0-20.0	9.0-11.0								12-1.8-2.3%	
511				0.92	0.27	0.92			7.29 (actual analysis)			3.66			1.41	1.0			
515				0.9-1.1	0.6	0.6	0.03	0.03	12-14.5	0.5	1.4-1.8								
519	25K22GNTA	GMETU 4543-57		0.23-0.29	0.80-1.30	0.20-0.50	0.025	0.025	1.30-1.70	0.90-1.40		0.6-1.2		0.20					
530	Kal8M28M3D3	GOST 5632-51		0.12	1.0	1.0	0.030	0.020	17.5-19.5	27.0-29.0	2.5-3.5			3.5-4.5					
530	Kal8M28M3D4T	MPETU 2677-50		0.12	1.0	1.0	0.030	0.020	17.5-19.5	27.0-30.0	2.5-3.5	0.7							
531	12Kb21TD			0.8-0.12	0.80-0.70	0.40-0.70	0.035	0.030	2.1-2.6	0.30	0.5-0.7	0.1	0.2-0.3					ND-0.5-0.8%	



Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)											
			C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al
540	Kh25N12		0.10	0.25-0.50	0.50-1.0	0.035	0.030	22.0-25.0	22.0-25.0	2.5-3.5				
543	GOST 1435-54		0.12	1.5-2.0	1.4-2.0	0.030	0.020	19.0-22.0	9.0-11.0					
544	Kh25N12		0.20	2.0	1.0	0.035 (estimated composition)	0.030	22-26	11-13					
553	95KhGS		0.95-1.05	0.7-1.0	0.5-0.8			1.0-1.3						
556	Kh25N13B		0.12	1.0-2.0	0.80	0.035	0.020	23.0-26.0	12.0-14.0					
559	Kh16G1u		0.05	0.45	0.13			16.2	Rel.					
559A	Kh16G1u		0.10	0.30	0.80	0.020	0.020	15.0-18.0	55.0-58.0					

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
546																			
551	15Kh3MA	ChMTU 4689-54		0.15	0.40- 0.70	0.17- 0.37	0.035	0.030	2.5- 3.0	0.10	0.20- 0.30								
569	10NM			0.12	0.40- 0.70	0.15- 0.35	0.030	0.030	0.2	1.0- 1.5	0.4- 0.55								
572	3Kh19N9MVEF 2Kh18N3VF	GOST 5632-61		0.28- 0.32	0.8- 1.5	0.8		0.30	18.0- 20.0	8.0- 10.0	1.0- 1.5	1.0- 1.5	0.2- 0.5					Nb-0.2- 0.5%	
574	N34KhGB	TU 639		0.7- 0.8	2-3	0.5	0.04	0.03	7-9	33-35		2-4							
575	12KhMF 12Kh1MF	ChMTU 2579-54		0.08- 0.15	0.4- 0.7	0.17- 0.37	0.030	0.025	0.9- 1.2	0.25	0.25 0.35			0.15- 0.30		0.20			
576	Kh5VF, 12Kh5VF	ChMTU 2987-51		0.15	0.30	0.40- 0.60	0.025	0.025	4.0- 6.0	0.30		0.40- 0.70		0.50- 0.80		0.25			

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
573	Kb3M7	MTU 4220-53		0.15-0.20	0.25-0.50	0.40	0.030	0.030	2.5-3.0	0.25	0.50-0.70	0.50-0.80		0.05					
575	Kb3M7F	CMTU 4803-54	0.	0.16-0.22	0.25-0.50	0.40	0.030	0.030	2.5-3.0	0.25	0.35-0.50	0.30-0.50		0.70-0.85					
576	Kb3M7B	CMTU		0.16	0.25	0.40	0.030	0.030	2.87 (actual analysis)		0.48	9.40		0.40				Nb-0.65	
580	6Kh17M16M1	GOST 5632-61		0.08	2.0	0.20-0.80	0.030	0.030	16.0-18.0	15.0-17.0	3.0-3.5		0.3-0.5						
581																			
582				0.05-0.10	0.55-0.85	0.15-0.30			0.7-1.0	1.4-1.8	0.20-0.30								
585	35KhV10A	GOST 4543-57		0.35-0.43	0.20-0.40	0.17-0.37	0.035	0.030	1.50-1.80			0.20-0.40			0.40-0.70				
589				0.44-0.52	6.0-9.0	0.8			11.0-14.0	7.0-9.5		3.3-4.2		2.1-2.5				Nb-1.1-1.4	
590				0.34-0.42	7.0-10.0	0.7			11.5-14.5	5.5-6.5		2.80-3.4		1.55-1.8				Nb-1.0-1.4	
592	1Kh16M13M3 (Kh16M13M3B) (1Kh16M13M3T)	CMTU 5483-56		0.06-0.13	0.7	0.6			15-17	12-15	2.50-3.25		(0.5)					(Nb-1.25)	

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum values given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Ca	B	Co	Others	
595	OM23M5A	GOST 9232-59		0.05	0.30	0.60	0.015	0.015	21.5-23.5						4.50-5.10					
596	KhN70MnTiCu	GOST 5632-61		0.12	0.5	0.6	0.015	0.010	16.0-19.0	bal.	4.0-6.0	2.0-3.5	1.9-2.8	0.1-0.5	1.0-1.7		0.1		Fe-5 Co-0.2 Nb-0.53	
602	KhN75MnTiCu	GOST 5632-61		0.10	0.40	0.80	0.020	0.012	19.0-22.0	bal.	1.80-2.30		0.35-0.75		0.35-0.75				Nb-0.90-1.30 Fe-8	
603	KhNKh	GOST 5950-51		1.05-1.15	0.20-0.40	0.15-0.35			0.40-0.70											
605	OM18N9S			0.09	0.89	1.8	(actual analysis)		18.3	9.1			0.25							
606	OM18N9F2S OM19N9F2S OM19N9F3S2	ChMTU 3378-53		0.07	1.0-2.0	1.3-1.8	0.030	0.030	18.0-20.0	8.0-10.0				2.2-2.7						
606A				0.07	0.70	1.30-1.80	0.030	0.030	18.0-20.0	8.0-10.0				2.20-2.70						
607	KhN80MnCu			0.08	1.0	0.8	0.015	0.01	15.0-18.0	bal.			1.8-2.3		0.5-1.0				Fe-3.0 Nb-1.0-1.5	
607A				0.08	1.0	0.8	0.020	0.020	15-17	bal.			1.4-1.8		0.5-1.0				Fe-3.0 Nb-1.0-1.5	
608	Kh25Mn4S2			0.12	2.0 (estimated composition)	2.0			24-26	13-15										

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
612	Kh15N35, KhN35VT Kh15N35VT Kh15N35VT Kh15N35VT	ГОСТ 5632-61	AISI 330Ti	0.12	1.0-2.0	0.6	0.020	0.020	14.0-16.0	34.0-38.0		2.8-3.5	1.1-1.5						
612a				0.15					10-20	30-40			1.1-1.5						
612b				0.10	1.0-2.0	0.5	0.020	0.020	14.0-16.0	34.0-38.0		2.8-3.5	1.2-1.6						
613	Kh20Ni065T	ChMTU		0.10	6.0-8.0	0.60-1.00	0.030	0.025	18.0-22.0	8.0-10.0			0.60-0.90						
615	10N65MVT			0.40	1.0-1.3	0.4-0.7	0.030	0.030	0.4-0.7	1.5-2.0	0.20-0.30		0.1						
617	KhN70VM7u			0.12	0.5	0.6	0.015	0.010	13.0-16.0	bal.	2.0-4.0	5.0-7.0	1.8-2.3	0.1-0.5	1.7-2.3		0.02		Fe-5.0 Ce-0.02
617a							(same as for EI-826)												
618	ZhS-3			0.06	0.35	0.65	0.015	0.007	19.0-22.0	bal.			2.3-2.7		0.55-0.95		0.005-0.003		Fe-1.0

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)											
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al
626	6062/Al5A	6062-61		0.05	0.3	0.6		0.015	26-28	0.6					5.0-5.8
627									30.0						5.50
628	Al23M28-2T Al23M28-2T Al23M28-2T	6062-61		0.10	0.80	0.80	0.030	0.020	22.0-25.0	26.0-29.0	1.5-2.5		0.70		0.50
629	Al23M28-3D3			0.10	0.6	0.8	0.035	0.030	22-25	26-29	2.5-3.5				3.0-4.0
630		6062-54		0.05	0.10	0.35	0.030	0.020	0.30	30.0-32.0					4.5-6.5
631	Al23M28-3D3									30-32 (nominal composition)					4-6
636	Al18TFM			0.12	2.0	1.0			17-20	0.50 (estimated composition)	1.0	1.0	1.0		
639			Cast alloy B						(Similar to EI-461)						
643				0.30	0.8	1.0	0.025	0.020	1.0	2.6		0.9	0.08		0.1

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum values given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Fe	V	Al	Cu	N	Co	Others	
645	Kh17A, GKh17T	GOST 5632-61		0.08	0.70	0.80	0.035	0.035	16-18					50% to 0.8% max						
647	0Kh18N9S2			0.06	1.00-2.00	2.0-2.75	0.030	0.020	18.0-20.0	8.0-10.0										
649	0Kh18N9T5 Kh18N9T5B	GOST 5632-61		0.07	1.0-2.0	1.3-1.8			18.0-20.0	8.0-10.0					1.3-1.8				Nb-1.0-1.2	
650									(same as for EI-437B)											
652	KhN70Yu	GOST 5632-61	Inconel 702	0.10	0.3	0.8	0.02	0.02	26-29	bal.							2.6-3.5			Fe-1 Co-0.03 P-0.01
654																				
657	Kh28AN (similar to EI-457)	GOST 5632-61		0.15	1.50	1.00	0.03	0.02	25.0-28.0	1.00-1.70										Fe-0.18-0.25

EN No.	Alloy designation	Specification	Nearest Equivalent	Chemical Composition, percent (minimum unless given as range)																					
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others						
699	23Kh2N7A			0.19-0.25	0.30-0.70	0.17-0.37				1.6-2.4	0.8-1.2		1.0-1.4		0.13-0.23										
691				0.95-1.05						3.8-4.2		1.0-1.2	17-19		2.0-2.5			7.5-8.5							
692		ChMTU 3626-53		0.06-0.13	1.0-1.7	0.30	0.030	0.020	16.0-18.0	12.5-14.5	1.8-2.3	0.80-1.20						2.8-3.2							
693				0.13	1.0	0.5				19.5	20.0	3.2	2.5					19	19-1.2						
										(Nominal composition)															
680	1Kh16N13V2B									(same as EI-405)															
681	13G2Kh	ChMTU 3626-53		0.15	1.6-1.9	0.12	0.030	0.030	1.2-1.5																
683		ChMTU 3626-53		0.10	1.6-1.9	0.12	0.030	0.030																	



EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)											
				C	Mn	Si	P	S	Cr	Ni	Mo	V	Ti	V	Others
660		ChemTU 4176-53		0.06	1.0	0.60	0.030	0.020	17.0-19.0	10.0-12.0					
662		MTU 4270-53		0.06-0.13	1.0-1.7	0.30	0.030	0.020	16.5-18.5	12.5-14.0	2.1-2.6				
663	3800HV	MTU 4272-53		0.35-0.42	0.30-0.60	0.17-0.37	0.040	0.040	1.25-1.65	1.35-1.75		0.60-0.90			
	Kh15N35VBT----- KhN35VBT (Kh15N35VBT2) (Kh15N35VBT2) (Kh15N35VBT2)- (same as EI-612)	GOST 5632-51		0.12	1.0	0.6	0.020	0.020	12.0-16.0	32.0-36.0	2.0-3.0	2.3-3.3	1.1-1.5		Ce-0.25
664	(Kh15N35VBT) (Kh15N35VBT)														(Nb-1) (Nb-1.5)
	(Kh15N35VBT5) (Kh15N35VBT10)												2% 2%		5-6% 9-10%
665	Nb80h	ChemTU 5019-55		0.05	0.30-0.70	0.15-0.40	0.030	0.020	0.70-1.10	48.0-49.5				0.15	Fe-bal.
666	Kh14Ni6B 1Kh13Ni6B	ChemTU 2966-51		0.07-0.12	1.0-2.0	0.60	0.035	0.025	13.0-15.0	14.0-17.0					Nb-0.9-1.3
667	1Kh13Ni8V2B Kh14Ni8V2B	ChemTU 2966-51		0.07-0.12	1.0-2.0	0.60	0.035	0.025	13.0-15.0	18.0-20.0		2.0-2.75			Nb-0.9-1.3
668	1Kh18Ni8V2ER Kh14Ni8V2ER Kh14Ni8V3ER	GOST 5632-61		0.07-0.12	1.0-2.0	0.60	0.035	0.020	13.0-15.0	18.0-20.0		2.0-2.75		0.005	Nb-0.9-1.3

Chemical Composition, Percent. (maximum unless given as range.)																			
EI No.	Alloy Designation	Specification	Nearest Equivalent																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
601	Kh10N10P2R Kh12N10P3R	GOST 5632-61		0.10	1.0	1.0				10.0-12.5	18.0-21.5			2.6-3.2	0.8		0.003-0.02		
602		GOST 5632-61		0.10	1.0	1.0				10.0-12.5	18.0-21.0			2.3-2.8	0.5		0.003		
603	Kh12N10P3R	GOST 5632-61		0.10	0.6	0.6				10.0-12.5	21.0-25.0	1.0-1.6		2.2-2.6	0.8		0.003-0.02		
701																			
702				0.70	1.55	0.30	0.03	0.021-0.025 (actual analysis)		11-13	34-36	9.2		0.50					
703	Kh36N10P3R 36KhN10P3R			0.05	0.8-1.2	0.5							2.8-3.2		0.6-0.8				
704	Kh13N10P3R Kh22N38V3T	GOST 5632-61		0.06-0.12	0.70	0.80	0.030	0.030	20.0-23.0	35.0-39.0		2.80-3.50	0.70-1.20		0.50				
705	R9K5	GOST 9373-60		0.80-0.90	0.40	0.40	0.030	0.030	3.80-4.40	0.40		9.0-10.5		1.60-2.00			5.0-6.0		
706	R9P5	GOST 9373-60		1.4-1.5	0.40	0.40	0.035	0.035	3.80-4.40	0.40	0.30	9.0-10.0		4.4-5.0					
711	Kh14N14N3P 14Kh14N3P13T	GOST 5632-61		0.10	13-15	0.80	0.035	0.025	13-15	2.5-3.5	5xC-0.2							10-0.60-0.90	

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
712	12Kh2NVA			0.09-0.16	0.3-0.70	0.17-0.37			1.9-2.40	0.8-1.20	0.15-0.25	1.0-1.40		0.18-0.28						
713				0.07	0.57	0.16	(actual analysis)		14.95	16.45	0.8	2.63				0.01		Nb-0.85		
714				0.06	0.55	0.46	(actual analysis)		15.58	16.45	0.75	2.60						Nb-0.83 N-0.1		
718				0.06	1.56	0.47	(actual analysis)		18.0	13.1	0.68		0.58	0.51		0.01				
722	70S3KhMVA			0.71	0.51	2.49	0.018 (actual analysis)	0.02	0.62		0.2	0.6								
723	25Kh2NLP, TsZh-4, 25Kh2NFA, 25Kh2NTP	ChMTU 5604-56		0.22-0.30	0.50-0.80	0.17-0.37	0.030	0.030	2.1-2.5		0.90-1.1			0.30-0.60						
723B	25KhMTB			0.22-0.30	0.50-0.80	0.17-0.37	0.030	0.030	2.1-2.5		0.90-1.1			0.3-0.5				Nb-0.5-0.8		
724	1Kh16N13B Kh16N13V	ChMTU 2804		0.07-0.12	0.8-1.5	0.7	0.030	0.030	15.0-17.0	12.5-14.5								Nb-10xC to 1.4% max Ce-0.02 (0.005B)		
725	Kh15N35V5T----- KhN35VT	GOST 5632-61		0.10	1.0	0.6		14.0-16.0	35.0-38.0		4.0-5.0	1.1-1.5								
	(Kh15N35V5TR) (KhN35VTR)																			
725A							(same as 725-164)													

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
725	13K13N18V2ER 13K14N19V3ER			0.08- 0.12	1.0- 2.0	0.6	0.020	0.025	13-15	18-20		2.0- 2.75				0.02		Nb-0.9- 1.3 Ce-0.2	
729				0.18- 0.23	17.0- 20.0	0.8	0.1	0.03	12.0- 14.0	0.5				0.5- 0.8					
732	03L20N14S2	GOST 5632-61		0.08	1.50	2.00- 3.00	0.035	0.025	19.0- 22.0	12.0- 15.0									
734		GOST 5632-61		0.34- 0.40	7.0- 9.0	0.3- 0.8			11.5- 13.5	4.5- 6.5	1.1- 1.4			1.25- 1.55		0.005			
735	13K114N1VRA	ChMTU 5319-57		0.10- 0.16	0.6	0.6	0.030	0.030	13-16	2.8- 3.4		1.6- 2.2	0.05	0.18- 0.28					
736	13K114N2VTR	C MTU 5319-57		0.10- 0.16	0.6	0.6	0.030	0.030	13-16	1.9-		1.8- 2.4				0.005			
738									(same as EI-381)										

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, Percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	O <sup>100%</sup>
751				0.17	0.48	0.19	0.028	0.028	12.4 (actual analysis)	0.60	1.08			0.27					
752				0.18	0.50	0.16	0.018	0.010	12.3	0.68		0.98		0.27					
753				0.17					12.0 (nominal composition)	0.65 (nominal composition)									Zr-0.6
753	4032NR	CAMTU 5635-56		0.35-0.42	0.6-0.9	0.17-0.37	0.040	0.040	0.6-0.9	0.4-0.8							0.002-0.005		
754				0.09	0.79	0.20	0.023	0.016	10.78 (actual analysis)	0.20	0.73			0.21					Nb-0.25
755	KAL111		AISI 422	0.13	0.79	0.38	0.012	0.018	10.85 (actual analysis)	0.31	0.73	2.05		0.09					Nb-0.37
756	1Kh12V4MT	GOST 5632-61		0.10-0.17	0.50-0.80	0.50	0.030	0.025	11.0-13.0		0.60-0.90	1.70-2.20		0.15-0.30					
757	1Kh12V4MT	GOST 5632-61	AISI 422	0.10-0.15	0.60-0.80	0.20-0.35	0.030	0.030	10.5-12.5		0.60-0.80	3.7-4.2		0.20-0.30					
765	KAL15W70V4YU2TR			0.11-0.9					14.6 14.5 (actual analysis)	bal. bal. (actual analysis)	4.17-4.2	5.05-5.2	1.22-1.3		1.85-1.94		0.008		Fe-0.76
766A				0.15					10-25 (nominal composition)	60 (nominal composition)			1-3		4-6				

Chemical Composition, percent (maximum unless given as range)																			
PI No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
702	Kh13Kh16 (Kh13Kh16R)			0.07- 0.12	1.0- 2.0	0.6	0.030	0.025	13.0- 15.0	14.0- 17.0			0.6- 1.0				(0.10)		Ce-0.020
703	Kh13Kh18V2R Kh13Kh18V2TR			0.07- 0.12	1.0- 2.0	0.6	0.030	0.025	13.0- 15.0	18.0- 20.0		2.0- 2.75	0.6- 1.0				0.002		Ce-0.020
704	Kh16Kh13B Kh16Kh13B			0.07- 0.12	0.8- 1.7				15-17	12-14									Nb-10xC up to 1.2%
705				0.05	0.77	0.24		(actual analysis)	8.95	2.34	1.65		0.37	0.59					
706	GOST Kh14Kh20V3T3YuR Kh14Kh25V3T3YuR	5632-61		0.08	0.60	0.60			13-15	26-29		2.8- 3.5	2.4- 3.2		0.5- 1.0		0.20		
707	Kh135VYu Kh15Kh35V3T3YuR (GOST Kh15Kh35V3T3YuR)	GOST 5632-61		0.08	0.60	0.60	0.020	0.012	12.0- 16.0	33.0- 37.0		2.80- 3.50	2.40- 3.20		0.5- 1.0		0.020		
708																			
709				0.94- 1.04	0.50	0.90			(nominal composition)										
793	Kh18Kh9TiYu	GOST 5257-55		0.09	2.0	0.8	0.03	0.03	17-20	8-11			1.1- 1.3		0.8- 0.8				

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
800	06Al1V			0.10	2.0	1.0	0.03	0.03	10-12	(estimated composition)		1-2	0.5						
801				0.1-0.17	0.8-1.3	0.5			10-12	0.5-1.0	0.6-0.8				0.2-0.4				Nb-0.4-0.7
801	25Kh11M3F																		
802	1Kh12VNF	GOST 5632-61		0.12-0.18	0.5-0.9	0.4			11.0-13.0	0.4-0.8	0.5-0.7	0.7-			0.15-0.30				
802	15Kh12VNF	МРТУ 4909-54		0.11-0.18	0.6-1.0	0.4	0.030	0.030	11.0-13.0	0.5-1.0	0.4-0.6	0.7-1.0			0.15-0.30				
803	Kh6VF			1.0-1.15	0.45	0.35			5.5-7.0			1.1-1.15			0.5-0.7				
811	1Kh21N5T 1Kh21N5T 1Kh21N5B	GOST 5632-61		0.09-0.14	0.80	0.80	0.035	0.025	20-22	4.8-5.8					5x0-0.02 to 0.6max				Nb-5x0 0.02 to 0.05 max
812																			
813	1Kh25N25TR Kh25N25TR Kh25N25T	GOST 5632-61		0.07-0.12	1.00-2.00	0.80-	0.035	0.020	23.0-26.0	24.0-27.0					1.10-1.60			0.010	

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
823				0.85-0.95	0.35-0.90	0.70-0.90				7.00-9.00	0.30		2.00-2.50		2.40-2.80				
826		GOST 5632-61		0.12	0.5	0.6	0.015	0.09	13.0-16.0	bal.	2.5-4.0	5.0-7.0	1.7-2.2		2.4-2.9		0.015		Fe-5.0 Co-0.02
827			Nimonic	0.02		0.14			9.6 (actual analysis)	bal.	9.6								Fe-1.37
828	(Nickel-base alloy)																		
835	Ni25Ni6G7AR	GOST 5632-61		0.12	5.00-7.00	1.00	0.035	0.020	23.0-26.0	15.0-18.0							0.020		N-0.3-0.45
839				0.40-0.50	16-18	0.30-0.70	0.06	0.03	0.50	0.50					2.40-3.50				
842	00KAl5Ni10	GOST		0.09	0.60	0.80			17-19	9-11									
846	(stainless)			0.2-0.3													0.1-0.5		



Chemical Composition, percent (maximum unless given as range)																			
HT No.	Alloy Designation	Specification	Nearest Equivalent																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
857	IN16NL93B IN16NL93B	GOSE 5632-61		0.09	0.60	0.80	0.035	0.020	15.0- 17.0	14.0- 16.0	2.50- 3.00							Nb-0.05- 0.09	
858	IN16NL93B			0.12	0.8	0.8			15.0	20.0								Nb-1.30 N-0.97C	
859	(stainless)																		
859	IN16NL93B			0.12	2.0	3.0	0.03	0.03	15-17 (estimated composition)	1								Nb-2	
859	Cr-Ni austenitic																		
859	IN16NL93B	CMTU 5595-56		0.12	0.8- 1.0	0.4	0.03	0.03	14-16	24-26	5-6								
857																			
857				0.1	0.3	0.6			8.5- 10.5	bal.	9- 11.5		4-6		4.2- 4.9		0.02	4-5	Fe-4.0 Ce-0.02
853	IN13NL93B			0.10	0.50	0.80	0.015	0.015	23.5- 26.5	bal.			13.0- 16.0	0.30- 0.70		0.50			Fe-4%
859				0.8	1.0	0.8	0.020	0.020	14-17	bal.				1.5- 1.9		1.1- 1.4	0.005 Zr 10.003		Fe-3.0 Nb-1.0 1.5

PI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															Others
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	
901				0.06	0.91	0.32	0.02	0.016	16.73 (actual analysis)	bal.			1.65		0.88				1.0-2.45
902	Ru1704A99 Ru1704A99	GOST 5632-61		0.12	8.0-10.5	0.8-	0.035	0.020	16-18	3.5-4.5									11-0.15-0.25
903	Ru1304A99B			0.12	2.0	3-5	0.03	0.03	12-14 (estimated composition)	13-15									Nb-1
904																			
905																			
906																			Fe-10
907																			
908																			
909																			Nb-1.0-1.4
910																			
911																			
912																			
913																			
914																			
915																			
916																			
917																			
918																			
919																			
920																			
921																			
922	Ru1910W3B			0.10	1.0-2.0	0.6			18-20	9-11	2.0-3.0								Nb-0.9-1.3
923				0.30-0.40	16.0-18.0	0.50	0.030	0.030	0.60	0.50								4.75-5.50	

BT No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
901	Kal5Ni9Cu (SW-2)	GOST 5632-61		0.09	0.80	0.80	0.035	0.025	14-16	7-9.4					0.70- 1.30				
905	08Ni25Ni5Ti1F			0.07	0.40	0.33	0.007	0.009	24.2 (actual analysis)	4.92	0.11		0.10	0.11					N-0.20
906	Heating-resistant, high-carbon SS																		
907	" "																		
908	" "																		
909	20Kh18Ni10			0.18- 0.25	0.25- 0.50	0.15- 0.35			1.0- 1.3	0.4	0.8- 1.2			0.7- 0.9					V/C-2.7- 5.0
913				0.10- 0.15	0.4- 0.7	0.15- 0.35	0.03	0.03	1.7- 2.2	0.3	0.4- 0.6		0.05- 0.10	0.20- 0.35					
914	08Kh18Ni10	GOST 5632-61		0.08	1-2	0.80			17-19	9-11			0.50- 0.60						
915	R14N4	GOST 5652-60		1.2- 1.3	0.4	0.4	0.03	0.03	4.0- 4.6	0.4- 0.4	0.3	13.0- 14.5		3.5- 4.1					
916	R18F2, R18F	GOST 5952-57		0.85- 0.95					3.8- 4.4			17.5- 19.0		1.8- 2.2					
917	R18F2M	GOST 9373-60		0.85- 0.95	0.4	0.4	0.03	0.03	3.8- 4.4	0.4	0.5- 0.7	17.5- 19.0		1.8- 2.2					
918	R21F			0.85- 0.95					4.0- 4.6		0.4	22.0- 24.0		1.8- 2.2					

EI No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
929	R9310	GOST 9373-60		0.8-0.9	0.4	0.4	0.03	0.03	3.8-4.4	0.4	0.3	9.0-10.5		1.6-2.2				9.5-10.5	
930	R9310P			0.9-1.0					3.8-4.4			9.0-10.5		2.2-2.6				9.5-10.5	
931				0.45	14.12	2.4	0.040	0.011	17.3				0.48						
929	K117M3 (SM-3)		AM 350	0.06-0.10	0.7	0.7	0.035	0.020	16-17.5	4.5-5.5	3.0-3.5								
930	(Beryllium steel)																		
929	VZn 36-300	GOST 5632-61		0.12	0.5	0.5			9-12	Rel.	4.4	4.5-6.5	1.4-2.0	0.2-0.8	3.6-4.5		0.02	12-16	Fe-5 Fe-0.1
931	R10K5F5, R10F5K5	GOST 5952-51		1.45-1.55	0.4	0.4	0.03	0.03	4.0-4.6	0.4	0.3	10.0-11.5		4.4-5.0				5.5-6.5	
937				0.47-0.55	0.2	0.2	0.04	0.04	0.15	0.25			0.1-0.2						

El No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others	
940	R18-542	GOST 5952-51		0.8-0.9	0.4	0.4	0.03	0.03	3.8-4.4	0.4	0.3	17.5-19.0		2.0-2.5			5.0-5.5			
943	08A10-27H3D3T 08A23-20H3D3T 000023H2823UT	GOST 5632-61		0.05	0.80	0.80	0.035	0.020	22-25	26-29			0.4-0.7			2.5-3.5				
944																				
945	(Misc steel)																			
945	25Kh18N3V2	ChMTU 533-61		0.21-0.28	0.7	0.3-0.8	0.030	0.030	17.0-19.0	7.5-8.5		2.0-2.5								
952	15Kh12VMF	GOST 5632-61		0.11-0.18	0.6-1.0	0.40	0.030	0.030	11.0-13.0	0.5-1.0	0.4-1.6	0.7-1.0		0.15-0.30						
953	KHMTF			0.09	0.79	0.024	0.016	13.75 (actual analysis)	11.0				1.05		1.05					
954	KH25N5TMF			0.09	0.44	0.63	0.028	0.024	24.3	5.35	0.10		0.10	0.11			N-0.044			
956	4Kh4VFM			0.35-0.45	0.20-0.40	0.6-1.0	0.03	0.03	4.0-5.0		0.40-0.60	3.5-4.5		0.30-0.60						

El No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	V	Ti	V	Al	Cu	B	Co	Others
970	4212WFS	CA8TU 91-53		0.35- 0.45	0.35	0.8- 1.2	0.03	0.03	4.5- 5.5	0.3		1.6- 2.4		0.03					
972	4212WFS	CA8TU 91-53		0.35- 0.45	0.35	0.5			2-3	0.3	0.4- 0.6	4.5- 5.5		0.8- 1.2					
971	10K12WVF 10K12WVF	GOST 5632-61		0.10- 0.16	0.60	0.60	0.030	0.025	10.5- 12.0	1.5- 1.8	0.35- 0.60	1.60 2.00		0.18- 0.30					
972	10K12WVF 10K12WVF			0.09 0.13	0.6	0.6	0.03	0.025	10.5- 12.0	1.4- 1.8	0.35- 0.50	1.50- 2.0		0.19- 0.30			0.004		
972A	15K12WVFA																		
971	9704SVF			0.95- 1.02	0.7- 1.0	0.7- 1.0			0.7- 1.0			0.8- 1.0							
973	15K17WYu	GOST 5632-61		0.09	0.80	0.80	0.035	0.025	16-18	6.50- 7.50						0.80- 1.30			

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GOVERNMENT SPECIFICATIONS AND ALLOYS

Item No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)										
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V
17	1M12G14V2ER	GOST 5632-61		0.07-0.12	1.0-2.0	0.6	0.03	0.03	15.0-18.0	13.0-15.0		2.0-2.75		
19	1M21AN3													
23	1M22N5AG9			0.05-0.09	8.0-10.0	0.8	0.035	0.030	21.0-23.0	4.5-5.5				
24														
26	1M18M2AG5			0.01	4-6	0.8	0.035	0.030	17-20	1.5-2.5				
27														
33														
38	1M12M22T3MR	GOST 5632-61		0.10	0.60	0.60	0.020	0.010	10.0-12.5	21.0-25.0	1.00-1.60		2.60-3.20	0.80
39														



IP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)																	
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others		
44	29Kh2MnR			0.20-0.30	0.5-0.8					1.0-1.5	0.5		0.8-1.1				0.7-1.0		0.005		Nb-0.1-0.2
45	1Kh14M18V2E2																				
46	2Kh14M16V2																				
48		ChMTU 358-60		0.40-0.50	0.9-1.20	1.0-1.3				22.0-24.0	4.5-5.5	2.5-3.0									
51				0.05	0.8-1.2	0.5				11.5-13.5	34.5-36.5	4.5-6.0		2.8-3.2			0.9-1.2				
52				0.05	0.8-1.2	0.5				11.5-13.5	34.5-36.5	7.5-8.5		2.8-3.2			0.9-1.2				
53	OKh21M5T	GOST 5632-61		0.08	0.80	0.80	0.035	0.025		20-22	4.8-5.8			0.3-0.6							
54	OKh21M6V2T	GOST 5632-61		0.08	0.80	0.80	0.035	0.025		20-22	5.5-6.5	1.8-2.5		0.2-0.5							
55	OKh17M5G9AB	GOST 5632-61		0.08	13.5-15.5	0.6				16-18	4.5-5.5										Nb-0.8
56	1OKh16M4B4																				

EP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
65	2KAl3NiV3 23NiAl3NiV3A	ChMTU 456-61		0.2	2.0	1.0	0.03	0.03 (estimated composition)	12-14	1-2	1	1		0.5					
75	Ka25Ni12T			0.12	2.0	1.0	0.3	0.3	24-26	11-13			0.5						
81	4Ra4V3F			0.35- 0.45	0.8- 1.2	0.7- 1.0	0.04	3.6- 4.1	0.3		2.5- 3.0		0.2- 0.4						
87	06Ka25Ni12Ti Ka25Ni12Ti	ChMTU 168-59		0.07	0.8	0.6- 1.0	0.03	0.03	24-26	11-13			0.6- 0.9		0.4- 0.8				
88	08Ka15Ni23G7V7i2	ChMTU		0.10	6-8	0.35	0.03	0.03	14-16	22-25	2-3	7-8							
89	05Ka20Ni11M3TB Ka19Ni10H3TB	ChMTU 170-59	AISI 318	0.07	0.8	0.5- 1.0	0.03	0.03	19-21	10-11	2.5- 3.5		0.06- 0.09				No-0.5- 0.9		
105		GOST 5632-61		0.1	0.6	0.6			12.0- 15.0	33.0- 37.0	3.0- 3.8		2.0- 2.6		2.4- 3.2		0.015	0e-0.1	

TP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)														Others
				C	Mn	Si	P	S	Cr	Mo	W	Ti	V	Al	Cu	B	Co	
166	IN20025V2M3ER (V2E-100)			0.1	1.5	0.6			19-22	25-30	2.8-3.5	4.8-6.0				0.005		N-0.15-0.3 Nb-0.7-1.3
167	20K22M15G77A	ChMTU 275-60		0.18-0.25	6-8	0.35	0.025	0.025	19-22	14-16		0.6-1.0						N-0.25-0.45
168	08K20M10S2HMYu	ChMTU 276-60		0.10	1.0-2.0	2.0-2.5	0.03	0.03	19-21	8-10		0.5-1.0		0.3-0.7				Nb-10.6-1.0
169	08K15N30G7V3T			0.03	6-8	1.0	0.03	0.02	14-16	29-31		2-4 (estimated composition)						
169	K22M21V4T							(same as EJ-725A)										
169	(Austenitic)															0.37		
169																0.53		
170																0.69		

EP No.	Alloy Designation	Specifi- cation	Nearest Equivalent	Chemical Composition, percent (maximum unless given otherwise)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	B	Co	Others	
197																0.36			
198		CA84U 320-60		0.11 0.17	0.65- 0.95	0.40- 0.80			1.3- 1.7	1.6- 2.0	0.20- 0.35	0.60- 1.0							
199	2024H18F			0.17- 0.24	0.50	0.35			0.9- 1.4	0.5			0.05- 0.12	0.7- 1.1					B-0.005
200	7075-T6											6-7							
201																			
202	(same as 7075-T6)																		
203			Permendur 2-V	0.03	0.20	0.10	0.014	0.010 (approximate composition)		0.20					1.8			50	

IP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)															
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
212	Kal4Al4N	CaMTU 444-61		0.12	13.0-15.0	0.80	0.035	0.020	13.0-15.0	1.0-1.5									
213	Kal7Al4	GCST 5632-61		0.15	13.5-15.5	0.80	0.035	0.020	16.0-18.0	0.60								N-0.30-0.40	
214	Ka21N3T GG21N3T			0.06	1.6	0.45			21.0 (actual analysis)	3.4			0.26						
225	Kal5M5D2T																		
239	Kal7Ga1N15T			0.1	20.0-22.0	0.8	0.045	0.03	16.0-18.0	14.0-16.0			0.35-0.70						
234	06Ka14N19C8V6B3B	CaMTU 392-61																	
235	06Ka15M30G8V7B3T	CaMTU 400-61		0.08	7.0-8.5	0.35			14-16	34-36	3.0-4.0	7.5-8.5	1.3-1.8						
236	06Ka14N19C8V6B3T	CaMTU 401-61																	

EP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)										
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V
245	(similar to EP-317)	CA11U Palladium												
257														
263				0.10	0.4-0.6	0.2-0.8	0.02	0.035	30-33	7-9			0.15	
273														
283	IN165			0.05-0.09	1.0	0.7	0.03	0.02	15.5-17.5	5-8				
302	IN17000													

MP No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)											
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Others
311	VR3-6														
317	Co RP-245	CA800/TENI-Chromet 639-62													Ce-0.8
312	K123										3	6		2	
351	K115N65M5														
375	K115N55M6V		Hastelloy C	0.08	0.2	1.0	0.02	0.02	14.5-16.5	Bal.	15-17	3-4.5		0.35	Fe-7
376	OR16M15H3B														

ID No.	Alloy designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum values given as range)													Others		
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	A <sup>1</sup>	Cu		B	
330	08AL15N12M12L R15N15M12L	ChMTU 846-63																	
331	08AL18M12L R18M12L	ChMTU 847-63																	
332	08AL15N30G6V3M1L	ChMTU 663-62																	
333	R125M12N10L																		
334	R117G9M5MA																	0.4-0.6	
400																			
435																			



Chemical Composition, percent (maximum unless given as range)																			
EP No.	Alloy Designation	Specification	Nearest Equivalent	C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co	Others
489		Chemical ASTM A240 850-63																	
489	SA-443M	Chemical ASTM A240 952-63																	
489	RA15N25V12H																		
489	N70N27		Hastelloy B	0.03	0.5	1.0				Bal	25-29								Fe-1.5
489	N70N27F			0.05	0.5	0.5				Bal	25-29			1.4- 1.7					Fe-4.0
531	RA15N25V12H																		

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STEEL "122" SERIES

Item No.	Alloy Designation	Specification	Nearest Equivalent	Chemical Composition, percent (maximum unless given as range)														
				C	Mn	Si	P	S	Cr	Ni	Mo	W	Ti	V	Al	Cu	B	Co
1	1Kh13	GOST 5632-61		0.09-0.15	0.60	0.60	0.030	0.025	12-14									
2	2Kh13	GOST 5632-61		0.16-0.24	0.60	0.60	0.030	0.025	12-14									
3	3Kh13	GOST 5632-61		0.25-0.34	0.60	0.60	0.035	0.030	12-14	0.6								
4	4Kh13	GOST 5632-61		0.35-0.45	0.60	0.60	0.035	0.030	12-14	0.6								
17	Kh17	GOST 5632-61	AISI 430	0.12	0.70	0.80	0.035	0.025	16-18	0.6								
27	Kh20								(Same as Kh13)									